

This lesson is part of a larger, comprehensive school garden guide called **Minnesota School Gardens: A Guide to Gardening and Plant Science** developed by Minnesota Agriculture in the Classroom in 2013. The entire guide is available at www.mda.state.mn.us/maitc.



Grade

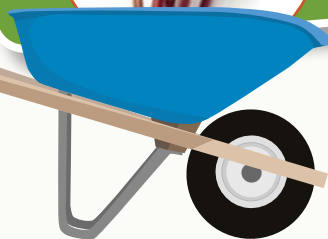
Middle School

Materials/Preparation

- ☐ Teacher Material A – It's All in a Label – Copy and cut up as many sheets needed to speed the activity
- ☐ Handout A – Nutrition Facts Label Components Note Sheet – one per student
- ☐ Handout B – It's All in a Label – Nutritional Label Interpretation – one per student
- ☐ Assessment A – It's All in a Label – one per student
- ☐ Scissors –one set for teacher
- ☐ Tape
- ☐ Notebook paper
- ☐ Writing utensils

Fun Fact

Different colors of stalks determine the taste of rhubarb. Green stalks with green flesh have the highest acid content and are particularly sour. Green stalk varieties are mainly suitable for jams and jellies. Red stalks with green flesh are less sour and have a slight tangy, sweeter flavor. Red stalk varieties are good as filling for cake, pie, tart, or cookies or cut in fruit salads.



It's All in a Label

Minnesota K-12 Academic Standards

Health	6.8.1	The student will demonstrate the ability to influence and support others in making positive health choices.
Science	6.1.3.4	Current and emerging technologies have enabled humans to develop and use models to understand and communicate how natural and designed systems work and interact.

Summary/Overview

Students learn about the components of nutrition labels found on food.

Garden Connection

Students use nutritional labels to compare the nutrition of fresh garden peas to canned and frozen peas.

Background Information

Nutrition labels contain lots of information. By understanding the meaning of the information, students are able to make healthier food choices. Nutrition labels have three main sections including serving size, calories, and nutrients.

Objectives

- Interpret a food label.
- Explain the meaning of serving size.
- Define calories.
- Name three examples of nutrients.



Procedure

Interest Approach

Instruct students to take out a piece of paper and a writing utensil. Give them two minutes to create a detailed list of all the food they have eaten in the last 24 hours. Have them count the number of items they ate as well.

Ask students to take a good look at the food on their list. Can they estimate how many calories are represented on their list? A food label for each item would be needed before an accurate estimate of the number of calories could be made.

The nutritional requirements of our bodies and the nutrients contained in the foods we eat don't always align! For a healthy lifestyle it is important to understand the nutrient levels in the foods we eat. During this lesson students learn to read food labels.

Summary of Content and Teaching Strategies

Cut up and paste copies of Teacher Material A around the room; feel free to have multiples of each sheet for larger classes. Distribute a copy of Handout A to each student. Give students ten minutes to travel to each nutrient/label component and fill in the meaning for each portion of the label. They need not record every word. The first bullet is the main definition for each section; they can add a key note or two from the remaining bullets. Monitor student progress as they work on their activity sheet. Give time warnings at five

minutes and two minutes remaining to help students allocate their time to complete the activity.

Provide students with copies of Handout B. Tell students to read it carefully before beginning. The sheet contains three food labels and poses questions that challenge students to evaluate the labels. Students may refer back to the information recorded from Handout A. Students turn sheets face down upon completion. This individual activity should take no more than five minutes to complete.

Review/Summary

In small groups students compare answers to questions on Handout B. If they have different answers, they consult the teacher or a different group for clarification.

Modifications/Extensions

Take an extra day to look at ingredients and allergy warnings on food labels and discuss allergens in food. Note the special care that individuals with such food allergies must take to read food labels on all the products they eat.

Discuss how students can assist others in learning how to make educated food choices. Have students make posters showing how to interpret a nutrition fact label, USDA MyPlate diagram, or other nutrition-related messages. Hang posters around the school including the cafeteria.

Sources/Credits

Adapted from: National FFA Organization *Middle School Food and Agricultural Literacy Curriculum*, sponsored by the National Pork Board as a special project of the National FFA Foundation. Visit <https://www.ffa.org/documents/learn/MS.FS.4.1.pdf> to access the full-length version of this lesson.

It's All in a Label

Make as many copies of this sheet as needed. Cut along each section line and place the sections around the classroom.

Serving Size *Details the number of servings in the package.*

- Serving size standardizes food portions and allows consumers to compare foods through similar units of measure.
- The size of servings in the packaging influences the number of calories in the food. Pay close attention to serving size because you may accidentally consume too many calories by eating multiple servings.

Calories (and Calories from Fat) *Tells a measure of energy in each serving of the packaged food.*

- Calories from fat are added to detail how many of the total calories are derived from fat.
- Many Americans consume too many calories and this portion of the label helps consumers manage their caloric intake.
- General Calorie Guide: 40 calories is low, 100 calories is moderate, 400+ calories is high.

Nutrients *Details the quantity of specific nutrients offered by each serving of food.*

- Nutrients include: Total Fat (Saturated and Trans Fat), Cholesterol, Sodium, Total Carbohydrate, Dietary Fiber, Sugar, Protein, Vitamins A and C, Calcium, and Iron.
- The FDA breaks the nutrients into two groups to assist consumers in healthy choices.
 - Nutrients to be limited: Fat (Saturated and Trans Fat), Cholesterol, and Sodium. Americans consume enough or too much of these.
 - Nutrients to get enough of: Dietary Fiber, Vitamin A, Vitamin C, Calcium, and Iron. Most Americans don't get enough of these.

Name _____



Nutrition Facts Label Components Note Sheet

Nutrition Facts																													
Serving Size	Serving Size																												
	Servings Per Container																												
Calories	Amount Per Serving																												
	Calories Calories from Fat																												
Nutrients	% Daily value*																												
	Total Fat 1g %																												
	Saturated Fat %																												
	Trans Fat %																												
	Cholesterol %																												
	Sodium %																												
	Total Carbohydrate %																												
	Dietary Fiber %																												
	Sugars %																												
	Protein %																												
	Vitamin A %																												
	Vitamin C %																												
	Calcium %																												
	Iron %																												
<p>*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.</p> <table border="1"> <thead> <tr> <th></th> <th>Calories</th> <th>2,000</th> <th>2,500</th> </tr> </thead> <tbody> <tr> <td>Total Fat</td> <td>Less than</td> <td>85g</td> <td>80g</td> </tr> <tr> <td>Saturated Fat</td> <td>Less than</td> <td>20g</td> <td>25g</td> </tr> <tr> <td>Cholesterol</td> <td>Less than</td> <td>300mg</td> <td>300mg</td> </tr> <tr> <td>Sodium</td> <td>Less than</td> <td>2,400mg</td> <td>2,400mg</td> </tr> <tr> <td>Total Carbohydrate</td> <td></td> <td>300g</td> <td>375g</td> </tr> <tr> <td>Dietary Fiber</td> <td></td> <td>25g</td> <td>30g</td> </tr> </tbody> </table>			Calories	2,000	2,500	Total Fat	Less than	85g	80g	Saturated Fat	Less than	20g	25g	Cholesterol	Less than	300mg	300mg	Sodium	Less than	2,400mg	2,400mg	Total Carbohydrate		300g	375g	Dietary Fiber		25g	30g
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Record Information Below

Name _____



It's All in a Label - Nutrition Label Interpretation

Study the pea labels below. Use the information in each label to answer the questions at the bottom of the page.

1. Frozen

Nutrition Facts		Amount/Serving	% Daily Value*	Amount/Serving	% Daily Value*
Serving Size ½ cup (84g) frozen ½ cup prepared		Total Fat 0g	0%	Potassium 150mg	4%
Servings Per Container 4		Saturated Fat 0g	0%	Total Carbohydrate 12g	4%
Calories 60 Calories from Fat 0		Trans Fat 0g		Dietary Fiber 4g	16%
		Cholesterol 0mg	0%	Sugars 4g	
		Sodium 135mg	6%	Protein 4g	
		Vitamin A 8% • Vitamin C 10% • Calcium 0% • Iron 6%			

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Potassium		3,500mg	3,500mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

2. Raw

Nutrition Facts	
Serving Size 1 ½ cup (85g) Servings Per Container about 2.5	
Amount Per Serving	
Calories 35	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 0mg	0%
Potassium 170mg	4%
Total Carbohydrate 6g	2%
Dietary Fiber 2g	8%
Sugars 3g	
Protein 2g	
Vitamin A 20%	Vitamin C 90%
Vitamin K 25%	Iron 10%
Vitamin B6 6%	Folate 8%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.	
Calories: 2,000 2,500	
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Potassium	3,500mg 3,500mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4	

3. Canned

Nutrition Facts/Datos de Nutrición	
Serving Size ½ cup (122g) Cantidad por porción ½ taza (122g) Servings Per Container about 3 1/2 Raciones por envase 3 1/2 aproximadamente	
Amount/Serving Cantidad/Ración	
Calories/Calorías	50
Calories from Fat/Calorías de Grasa	0
% Daily Value* / % Valor Diario*	
Total Fat/Grasa Total 0g	0%
Saturated Fat/Grasa Saturada 0g	0%
Trans Fat/Grasa Trans 0g	
Cholesterol/Colesterol 0mg	0%
Sodium/Sodio 290mg	12%
Total Carbohydrate/ Total de Carbohidrato 11g	4%
Dietary Fiber/Fibra Dietética 3g	14%
Sugars/Azúcares 4g	
Protein/Proteína 3g	
Vitamin A/Vitamina A 6%	Vitamin C/Vitamina C 10%
Calcium/Calcio 0%	Iron/Hierro 4%
*Percent Daily Values are based on a 2,000 calorie diet. *Los porcentajes de Valores Diarios están basados en una dieta de 2,000 calorías.	

- Which of the peas above is highest in protein? _____
- Which of the peas above has the most calories per serving? _____
- Which of the peas above has the most calories from fat? _____
- Which of the peas above has the most carbohydrates? _____
- Which of the peas above has the least sodium? _____
- Which of the peas above has the most Vitamin A and C? _____

Name _____



It's All in a Label

Circle the letter next to the correct answer.

1. Most Americans get plenty of dietary fiber.

☐ True

☐ False

2. Trans Fats are a component of Total Fat.

☐ True

☐ False

3. Sugar is an example of a _____.

a. calorie

b. fat

c. carbohydrate

4. Calories are a source of _____.

a. energy

b. fat

c. strength

5. If you consume a 4-oz. candy bar with 50 calories per 1-oz. serving, how many calories are you eating?